



Subject Matter Experts from Academia

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14. ABSTRACT Modeling and simulation of human social and cultural behavior requires the close collaboration of modeling and simulation computer scientists with social and cultural scientists from academia. However, judging from attendance and participation in conferences addressing M&S of human behavior, it is clear that there is a dire lack of social scientists involved in these efforts. This presentation falls under the category of "socio-cultural data acquisition, extraction, and management" and will address ways to resolve this absence of social scientists in modeling and simulation communities. The presentation will begin with identification of possible academics to function as subject matter experts. Suggestions on ways to retain these experts will also be given. Interaction between scientists from academia with those from a modeling and simulation laboratory will be discussed, including possible problematic differences between university culture and military culture. The goal of the presentation is to give the M&S audience an insight into how to initiate and perpetuate collaborative interactions with university scientists.					
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Focus 2010 Human Social Cultural Behavior Program



- “Overcoming the significant challenges of understanding human behavior in complex and dynamically changing environments has been made a priority by the US military. Innovative leaps in understanding and modeling social and behavioral phenomenon are required to meet mission and strategic goals. ...HSCB Focus 2010 will consist of researchers and technology developers from diverse backgrounds including anthropology, sociology, linguistics, political science, economics, criminology, psychology, cognitive sciences, mathematics, statistics, and neuroscience...”



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Finding SME's in Academia



- Befriend an academic librarian
- Look for scientists who publish or work in your field of interest



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Finding SME's: Open Sources



- ◎ Authors of Books in the field
 - Academic Library – catalog search
 - Amazon.com
 - Worldcat
- ◎ Graduate School Locators (Princeton Review, Educational Testing Service)
 - Find institutions who train scientists in your field
 - Department websites often publish
 - CV's (academic resumes) of their faculty
 - Names of graduates from their department



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Finding SME's: Databases



- Search Discipline Databases
 - Social Sciences Citation Index
 - Psycinfo
 - Medline
 - Dissertation Abstracts
 - Others, consult with librarians



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Databases will give you:



- ◎ Authors of articles – social scientists
 - Click on author's name and automatically access other works, other co-authors
- ◎ Institutions and Departments
- ◎ Other articles that cite the work
- ◎ Journals that publish relevant work
 - Check journals for other scientists who publish there
 - Check the editorial board
 - Check reviewers



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Finding SME's: Grantees



- Federally-funded research archives abstracts from applicants
 - National Science Foundation
 - Go to website and search for recent grantees in your discipline
 - National Institutes of Health
 - CRISP database
 - Other funding agencies archive successful grant applications



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Finding SME's: Professional Societies



- ◎ From Faculty CV's or internet research
- ◎ Large National Organizations
 - e.g., American Psychological Association
- ◎ Smaller Specialized Societies
 - e.g., Society of Behavioral Medicine
- ◎ Directory of Members
- ◎ Presidents, Board of Directors
- ◎ Winners of Society Awards
- ◎ Newsletter
- ◎ Attend meetings
- ◎ Proceedings



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How to tempt SME's



- Collaboration in laboratories and with equipment not found in academia
- Positions for junior researchers for small projects
- Publishing outlets
- Involvement from very beginning of project
- Money



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Points of Tension



- Scientific Process vs Project Management
- Need to distribute and publish work
 - No established journals or other outlets
- Realize that M&S work may be inherently opposed to the work of social scientists
 - “Too difficult”
 - “Can’t be done”
- Threats to Self-Esteem



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The Ph.D.



What it means:

- Has acquired expertise in a specific area or knows how to find out information in that specific area, assuming the information exists

What it does not mean:

- SME knows everything
- SME will know everything about human behavior
- Will not make mistakes



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Cultural Differences: DoD vs PhD



Department of Defense

University Department

Proprietary	• Publish or Perish
Security Review	• Peer Review
Distro A, B, C, D	• Talk to anyone who will listen
Acronyms	• Academese
Hierarchical	• Egalitarian
Statement of Work	• Follow the question
Finish the project	• Answer the question
Extrapolations	• Limitations of work
Innovative Game Changing	• Grounded in previous research
High Tech	• Scholarly
Bigger is Better	• Parsimony



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Love Hate Relationships



- ◎ Really need expertise, but don't want to pay that much
 - Reason for Modeling and Simulation
- ◎ Like the idea of having a PhD on the project, but don't want to be limited by recommendations
- ◎ Like the idea of being “scientific” but don't have the patience to follow scientific procedures
- ◎ Want approval on final product, not guidance on process



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Horrible No Good Examples of Unfortunate Military – Scientist Interactions



- Green Goblin
- Fantastic Four
- Dr. Doom
- Bruce Banner / Hulk
- Abomination



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Limitations of SME's for M&S



- ◎ Sometimes the Subject Matter information just doesn't exist, so it's impossible to find a Subject Matter Expert
- ◎ An SME can give well informed experienced opinion and observations, but not hard data or algorithms
- ◎ No SME can take the place of systematic experimentation or investigation
 - Cannot provide concrete measures, numerics, algorithms



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QUESTIONS?



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